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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/942,133	08/29/2001	Shulong Li	5036A	6572

7590 03/26/2004

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EXAMINER
SINGH, ARTI R

ART UNIT	PAPER NUMBER
1771	

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

SA

Office Action Summary	Application No.	Applicant(s)	
	09/942,133	LI ET AL.	
	Examiner	Art Unit	
	Ms. Arti Singh	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-6,8-13,15-46 and 48-52* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The Examiner has carefully considered Applicant's amendments and accompanying remarks filed on 01/07/04. Applicant's amendments to the specification and claims have been entered. Applicant's amendment to the specification to correct the issues with the trademark/tradenames, also overcomes the objections made in paragraphs 1 &2 of the previous office action. The rejection made under 35 U.S.C. 112-2 (Ex Parte Slob) in paragraph 4 has also been overcome as Applicant has cancelled claim 4, and is thus withdrawn. Despite these advances, the amendments are not found to patently distinguish the claims over the prior art do not however overcome the rejections made in paragraphs 5-9 (35 U.S.C. §102 (b)) & (§ 103 (a)) of the previous office action and Applicant's arguments are not found persuasive of patentability for reasons set forth herein below, and are thus maintained.

Response to Arguments

2. Applicant's arguments filed 01/07/04 have been fully considered but they are not persuasive. With regard to Applicant's first argument that the rejection made over claims 1-29 and 42-52 under 35 U.S.C. § 102 (b) as being anticipated or obvious 35 U.S.C. § 103 (a) by Veiga et al. (USPN 6,239,046). Applicant disagrees with both rejections, in that they do not satisfy the rigorous standard necessary to support an anticipation let alone an obviousness type rejection and that the Examiner is relying on the presumption that the recited puncture resistance characteristics recited in the terms of ASTM measurements are inherent in Veiga et al, and then further directs attention to Example 2 of the instant specification which indicates that the coated singe fabric layers taught by Veiga et al do not meet this standard. Applicant has fails to see that claim requires "a fabric having at least one coating, film or

fabric, which exhibits the properties of puncture resistance. How is this any different, than the working example that Applicant points out? It appears that Applicant is reading limitations that currently, are not present in independent claim 1. Further, the invention of Veiga et al. is more than just a fabric with a single layer coating, but at the least is a fabric coated with an initial layer of polyurethane and a secondary layer of polysiloxane which in fact Veiga's invention comprises a textile substrate having opposed surfaces is initially coated with a polyurethane layer and, thereafter, with a layer of a polysiloxane, the coated substrate when converted into an air-holding restraint system by sewing, or by sewing and heat sealing, or by sewing and room temperature vulcanization of two (2) such coated substrates together, there results a restraint system having improved air retention. The polysiloxane coating permits the air bag to better withstand the extremely high temperatures encountered during inflation and to avoid the problem of coatings which self-block or stick to themselves. Therefore if a cross section of the Veiga's invention were to be taken 6 layers would be present, that is two fabric layers, two polyurethane layers and two polysiloxane layers. Additionally, the structure of claim 1 is exactly the same and thus the argument on the top of page 17 (that structure is lacking) is erroneous. Applicant's claim 1 specifically states that "a fabric having at least a coating or film or fabric layer" and this is met by the Veiga et al reference, and thus that argument is also unconvincing.

With regards to Applicant's next traversal over claims 2, 8 and 22 and all that depend from them, Applicant has amended the claims to call for a preformed film, and asserts that the cited reference does not teach this feature. The rejection has been amended with the reasoning that the Examiner takes the position using a film instead of a coating is a methodical step that does not materially effect the final product, and that a skilled artisan would not be able to tell the difference as to whether a film coating was used or a resin

coating was used because both inventions require that prior to the formation of the final product both applications require that simultaneous exposure of heat and pressure allow the coating or film which is atop the base fabric layer to become somewhat plastic and thus "cement" between (interstices) and to the individual yarns of the fabric and hold them in place so that the final product is impermeable.

With regard to the rest of the arguments the Examiner believes that the claims do not clearly define the structure that Applicant traverses, and thus from the arguments it appears that from a single fabric layer the airbag fabric has graduated to several fabric layers along with several coating layers, if this is such claims 3, 5 and 6 ***would be allowable***, but the claim would have to be written in a clearer format.

Therefore, in lieu of the Examiner's rebuttal Applicant's arguments are found to be unconvincing.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 3, 5 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. At present the actual structure of the claims as argued do not appear to be evident. Please clarify the claim language and state the exact layers and their compositions. For example in claim 1, line 3 onwards the claim states "fabric having at least one coating, film, fabric or layer" do these form a layer, or does layer mean a fourth option?

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Claim Rejections - 35 USC § 102 (restated and maintained)

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 8-12, 15-29 and 42-52 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over USPN 6239046 by Veiga et al.

Veiga et al. teach a coating a knit, woven or nonwoven textile substrate with a plurality of layers of coatings, which can be polyurethane and/or polysiloxane to then form a side curtain airbag with superior air holding and heat resistance (abstract). Either a polyamide, a polyester, or other synthetic fibers can be employed as the textile fabric substrate, and it can be in the form of either a knit, a woven or a non-woven fabric. A woven nylon is the preferred fabric substrate. Any type of denier size, shape and weaving configuration can be employed to advantage. The shape or configuration to be employed in the air holding restraint system will depend upon its ultimate location in the vehicle. For example, driver or passenger air bags will generally be elliptical, spherical or circular, while

air curtains will generally be rectangular or oval in configuration. The coating of the fabric substrate takes place on a coating line that has multiple coating stations with driers in sequence. Initially, prior to applying the first polyurethane coating layer, the fabric substrate is heat-set and stabilized by passing through an oven at about 250 degrees F to 400 degrees F. Thereafter, it is coated in accordance with the present invention. In one embodiment of the present invention, as can be seen by reference to FIG. 1, a fabric substrate 10 is first coated on its upper or top surface 12 with a polyurethane layer 14, which is referred to as a prime coat or adhesive coat, which serves to adhesively bond the filaments of the textile substrate so they do not comb or unravel. The polyurethane used in the prime coat or first layer 14 can be selected from among aliphatic and aromatic polyether and polyester polyurethanes, preferably those having a solids content of from about 30% to about 60%, by weight. These types of polyurethanes provide good adhesion to nylon and polyester and have satisfactory hydrolysis, i.e., resistance to breakdown under ambient storage conditions, to insure that the air bag is ready for use when deployed. The polyurethane coating weight applied is about 0.3 ounces/square yard to about 1.5 ounces/square yard with about 0.5 ounces/square yard preferred. Preferably, the prime coat layer 14 completely covers the entire surface 12 of the fabric 10, or it can be a partial coating designed to coincide with a particular area of the fabric. Also particular patterns, such as stripes, wavy lines, etc., with different coating weights can be employed to obtain the level of air permeability desired. The prime coat layer is then dried in an oven at an elevated temperature of from about 225 degrees F to about 425 degrees for about 1.5 minutes to about 3.0 minutes while advancing the fabric at about 1,000 yds/hr. to about 3,000 yds./hr., with 1,200 yds/hr is preferred. At a second coating station, an elastomeric polysiloxane layer 16 is then coated onto the surface of the polyurethane layer 14 in overlying relationship thereto. The coating weight of

the elastomeric polysiloxane layer is about 0.5 ounces/sq. yd to about 5.0 ounces/sq. yard, with about 1.2 ounces/sq. yard being preferred. It is then dried in an oven at an elevated temperature of about 300 degrees F to 450 degree F. Since the silicone layer 16 is inert, it yields a non-blocking product, which does not stick to itself either during extended storage in the vehicle and will deploy instantaneously when needed in the event of an accident. Further, silicone is extremely resistant to the elevated temperature encountered during inflation. The laminated or composite structure depicted in FIG. 1 typically forms a panel of an air bag or air curtain after die cutting into the desired configuration by the air bag manufacturer. A complementary composite structure, similar in all respects to the structure of FIG. 1, forms the opposite panel of the air bag or air curtain. In accordance with the present invention, a pair of such coated panels are joined together about their peripheries by sewing alone, or by sewing and heat sealing, or by sewing and room temperature vulcanization. When heat sealing is employed, radio frequency (RF) sealing, hot air sealing or ultrasonic sealing at about 10 to about 80 megahertz and at about 250 degrees F to about 450 degrees F are the preferred sealing methods, with radio frequency sealing being especially preferred.

Veiga et al. disclose what is set forth above, however Veiga et al. fail to the use of the same ASTM test standards for puncture resistance and leak down time. It is reasonable to presume that the said featured property is inherent to Veiga et al. Support for said presumption is found in the use of like materials i.e. a coated side airbag, which would result in having this property. The burden is shifted to Applicant to prove otherwise. *In re Fitzgerald 205 USPQ 495*. Alternatively, the presently claimed properties of puncture resistance and leak down time would obviously have been present, along with the tensile strength, once the Veiga product was provided. *See In re Best, 195 USPQ 433*.

With regard to the denier size and polyamide yarns, the Examiner takes the position that it is well known in the art of airbag fabric to use polyamide yarns having a denier of 210-630. However, if Applicant still feels the need that art be cited for the general limitations Applicant/Assignee have over a hundred patents themselves claiming the same general denier of 210-630 is the average denier for polyamide yarns used in coated airbags.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 30-41 rejected under 35 U.S.C. 103(a) as being unpatentable over Veiga et al. (USPN 6239046) as applied to claims 1-29 and 42-52 above, and further in view of Sollars et al. (USPN 6220309). Veiga et al. disclose what is set forth above but do not explicitly teach the use of a single fabric that is formed from a specific weave and virtually forms the entire airbag having single fabric layers and double fabric layers, as desired in claims 30-41. Sollars et al. co-owned by Applicant teaches all of these features. A person having ordinary skill in the art would have found it obvious to have employed the specific fabric having the weave structure as taught by Sollars et al. in manufacturing the airbag of Veiga et al. A skilled artisan would have been motivated to do this, as formulating an airbag from a single weave process instead laminating separate pieces together, makes economic sense.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ms. Arti Singh whose telephone number is 571-272-1483. The examiner can normally be reached on M-F 9-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ms. Arti Singh
Primary Examiner
Art Unit 1771

Ars 03/21/04